

REMARKS

This paper is responsive to any paper(s) indicated above, and is responsive in any other manner indicated below.

PENDING CLAIMS

Claims 1, 3-5 and 14-24 were pending, under consideration and subjected to examination in the Office Action. Appropriate claims have been amended, canceled and/or added (without prejudice or disclaimer) in order to adjust a clarity and/or focus of Applicant's claimed invention. That is, such changes are unrelated to any prior art or scope adjustment and are simply refocused claims in which Applicant is present interested. At entry of this paper, Claims 1, 3-5, 14-22 and 24 will be pending for further consideration and examination in the application.

112, 1ST PARAGRAPH REJECTION - OBSOLETE VIA AMENDMENT

Claims 14, 19 and 24 have been rejected, under 35 USC '112, first paragraph, for the concerns listed within the "112" section on page 2 of the Office Action. Traversal is appropriate, because the "plural line indicia serving as reference lines for parallelly-aligning scanning lines" feature/limitations was adequately supported by Applicant's original disclosure. More particularly, attention is directed to line 41 in FIG. 10(b) and the corresponding description given, for example, in paragraph [0053] of this application's publication document.

In the event that the rejection is premised on a finding that the disputed “computer-readable medium” phrase is not explicitly found within Applicant’s specification, Applicant points out that **MPEP 2163** (directed to “written description” guidelines) explicitly states “...there is no *in haec verba* requirement...” (i.e., “in the same words” requirement) with respect to “written description”, and continues to state simply that “...newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure.” Further, **MPEP 1302.02** states (in relevant part) “...that exact terms need not be used *in haec verba* to satisfy the written description requirement of the first paragraph of 35 U.S.C. 112.”

Further, **MPEP 2163** states two relevant guidelines to the present rejection, i.e., first, “To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention”, and secondly, “...the PTO has the initial burden of presenting evidence or reasons why persons skilled in the art would not have recognized in the disclosure a description defined by the claims.” Here, the Office Action comments have supplied only a bare quotation of a portion of Applicant’s claim limitations, with no accompanying evidence or reasons. Accordingly, it is respectfully submitted that the Examiner has not met his/her initial burden to support the “written description” rejection.

Based upon the foregoing, reconsideration and withdrawal of the above-referenced rejection are respectfully requested. If the Examiner continues such rejection, the Examiner should provide “evidence or reasons why persons skilled

in the art would not have recognized in the disclosure a description defined by the claims", as required by MPEP 2163 (directed to written description rejections).

DUPLICATE CLAIMS OBJECTION UNDER 37 CFR '1.75 - TRAVERSED

Applicant respectfully traverses the 37 CFR '1.75 objection of claims 15-24 as allegedly being improper duplicate claims, and Applicant respectfully submits the following. It is well established under U.S. patent law that even a small change in scope between claims is sufficient to avoid a 37 CFR '1.75 duplicate claims objection with respect to such scope-differing claims, i.e., major multi-million dollar legal cases are fought over a single word in a claim. Even **MPEP 706.03(k)** concerning "Duplicate Claims" itself states (in part), "...a mere difference in scope between claims has been held to be enough". Applicant respectfully notes, at minimum, the allegedly duplicate claims contain different terminology which may be interpreted differently from one another. As the foregoing is believed to have addressed all '1.75 - duplicate claims concerns, reconsideration and withdrawal of the '1.75 - duplicate claims objection are respectfully requested.

ALL REJECTIONS UNDER 35 USC '102 AND '103 - TRAVERSED

All 35 USC rejections (i.e., the 35 USC '102 rejection of claims 1, 3-5 and 15-23 as being anticipated by Sanjay-Gopal et al. (U.S. Patent 6,187,018), the rejection of claims 1, 5, 14-15, 18-20 and 23-24 as being anticipated by Cosman (U.S. Patent 6,405,072); and, the 35 USC '103 rejection of claims 14, 19 and 24 as being unpatentable over Sanjay-Gopal et al. (U.S. Patent 6,187,018) in view of Kallioniemi et al. (U.S. Patent Pub 2004/0085443)) are respectfully traversed. That is, insofar as

any such rejection applies to Applicant's presently-clarified claims, Applicant respectfully submits the following.

All descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated hereat by reference. Further, regarding any descriptions and rebuttal arguments concerning Applicant's invention and/or the applied prior art as included herein, yet found to be corrective over prior descriptions and rebuttal arguments, such corrective descriptions and rebuttal arguments should be considered to supersede prior descriptions and rebuttal arguments. Still further, all Office Action statements regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following.

One distinctive feature of Applicant's present invention lies in 2-axial position control and two-plane setting-direction control of the surgical operation tool, such as, a hand drill 3, for example.

More particularly, according to Applicant's present invention, as is apparent from Sketches A to D (derived, for example, from FIGS. 10(a) and 10(b), and paragraph [0053]) attached herewith, the surgical operation tool can be located at an appropriate position within a surgical field on a patient, with an appropriate setting-direction (i.e., alignment)(i.e., not only the position, but also the direction of the tool to be inserted into the patient may be guided).

In **Sketch A**, a tip of the hand drill 3 is positioned at a crossing point of the two (2) laser beams with each beam being oscillated. Then, as is shown in **Sketch B**, the position of the tool is adjusted so that one of the two (2) laser beam irradiate

thereupon comes aligned with one of two (2) lines 41 and 41, on the surface of the sleeve 40 (1-axial position control). That is, a laser line impinging on a lined-sleeve may be used (e.g., by a surgeon) to align the tool along a first guiding axis (e.g., by adjusting an attitude of the tool until the laser line is parallel with one of the lines on the lined-sleeve).

Then, as is shown in **Sketch C**, the hand drill may be turned upward or changed in posture or an inclination in the direction, as is shown by an arrow, in an upward direction. That is, another laser line from the other laser and impinging on a lined-sleeve may be used (e.g., by a surgeon) to align the tool along a second guiding axis (e.g., by adjusting an attitude of the tool until the other laser line is parallel with one of the lines on the lined-sleeve). Thus, with this, the tool becomes guided into alignment along a line shown by broken line in the figure (i.e., the line-like crossing section between the two (2) laser beams).

And, finally, the posture of an inclination of the tool is continued to be adjusted, until when, not only one (1) laser beam, but also other laser beam are aligned with (e.g., parallel to) the two (2) lines 41 and 41 on the surface of the sleeve 40 (2-axial position control). This condition enlarged is shown in **Sketch D**.

Namely, according to Applicant's present invention, i.e., the position measuring apparatus for surgery, it is possible to position the operation tool, correctly, in the surgical field of the patient, with an aid of such 2-axial position control, mentioned above.

Regarding distinguishing features/limitations, clarified independent claim 1 (taken as an example) recites: "A position measuring apparatus for surgery comprising: a position indicating means for indicating a two-axial setting-

position and a two-plane setting-direction of a surgical tool, said position indicating means including a pair of laser beam emitting means for emitting two respective laser beams scanned to form two planes, respectively, that intersect in a surgical field, where said two-axial setting-position is indicated by an intersection of said laser beams on a surface of a surgical object; a three-dimensional position measuring means for measuring a position and a direction of said surgical field and also the setting-position and the setting-direction of said surgical tool; and a control unit for controlling operation of said position indicating means and said three-dimensional position measuring means, wherein said position indicating means and said three-dimensional position measuring means being fixed on a common base, so that relative positional relationship therebetween is constant; and wherein said setting-direction for said surgical tool is given in a form of an intersection line formed by an intersecting said two planes which are formed by said two respective laser beams."

Independent claims 15 and 20 are derived from independent claims 1, but recite Applicant's invention using differing phraseology, e.g., uses "setting-position and setting-orientation" instead of "setting-position and setting-direction". Dependent claims 14, 19 and 24 recite (using claim 19 as an example) "wherein said surgical tool including plural line indicia marked thereon serving as reference lines for parallelly-aligning scanning lines of said laser beams impinging onto said surgical tool to parallelly-align with said line indicia, as a guide to effect said setting-orientation of said surgical tool."

Turning to rebuttal of the previously-applied art, on the contrary, Sanjay-Gopal et al., though disclosing the laser irradiating means for irradiating laser beams on the surgical field, such reference fails to show Applicant's 2-axial position control (or 2-axial orientation guiding) according to Applicant's present invention, as explained in the above. More particularly, Sanjay-Gopal et al.'s lasers are not used for guiding a direction or orientation of a tool, but instead, are used to define a field of view (FOV) where an image is captured. Regarding the tool, a positioning or orientation thereof appears to be wholly user-decided and Sanjay-Gopal et al.'s arrangement merely tracks the surgical tool so that a graphic representation of the surgical tool is mapped to image space where it is visualized along with the image representation of the subject via the video monitors 50.

Regarding the other primary reference, Cosman is likewise deficient. That is, Cosman appears not to be concerned with direction or orientation of tools, but instead, is directed to aligning beams onto a target, such as from a linear accelerator (LINAC) X-ray treatment machine. An electronic search for "tool" and "instrument" within Cosman's electronic text, turned up no hits.

Finally, Kallioniemi et al. does not cure the deficiency mentioned above with respect to the primary references. In short, no other previously-applied reference cures the major deficiencies mentioned above with respect to the above-discussed reference(s). Given that the previously-applied references are mutually deficient in at least one regard, it is respectfully submitted that the previously-applied references (whether taken individually, or in combination) would not have disclosed or suggested Applicant's claimed invention.

As a result of all of the foregoing, it is respectfully submitted that the applied art (taken alone and in the Office Action combinations) would not support a '103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and withdrawal of such '103 rejection, and express written allowance of all of the '103 rejected claims, are respectfully requested.

EXAMINER INVITED TO TELEPHONE

The Examiner is herein invited to telephone the undersigned attorneys at the local Washington, D.C. area telephone number of 703/312-6600 for discussing any Examiner's Amendments or other suggested actions for accelerating prosecution and moving the present application to allowance.

RESERVATION OF RIGHTS

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer. That is, any above statements, or any present amendment or cancellation of claims (all made without prejudice or disclaimer), should not be taken as an indication or admission that any objection/rejection was valid, or as a disclaimer of any scope or subject matter. Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, i.e., Applicant continues (indefinitely) to

maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are now in condition for allowance.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR '1.136. Authorization is herein given to charge any shortage in the fees, including extension of time fees and excess claim fees, to Deposit Account No. 01-2135 (Case No. 520.43276X00) and please credit any excess fees to such deposit account.

Based upon all of the foregoing, allowance of all presently-pending claims is respectfully requested.

Respectfully submitted,

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